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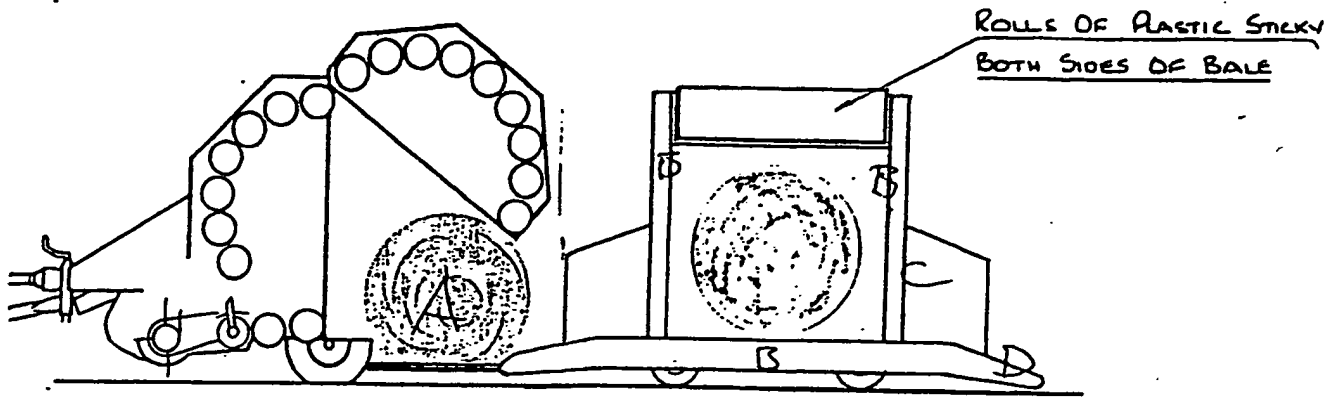
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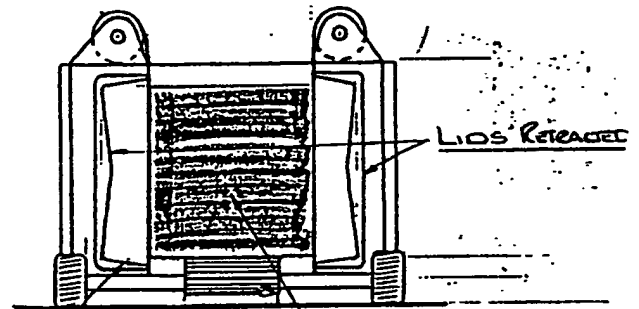
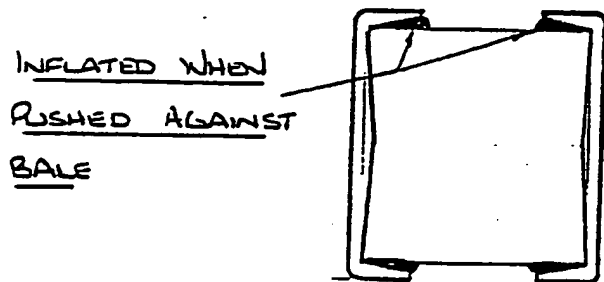
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(54) Improvements to agricultural machinery

(57) A trailer which is towed behind a big round baler (either trailed or semi-trailed), has a conveyor mounted within the chassis, to move the bale from the point of issue when it is ejected from the baler to a position within a wrapping structure B wherein adhesive plastics film fed from rolls are pressed onto the flat sides of the bale by lid members containing an inflatable ring to seal the film to the peripheral wrapping applied to the bale in the round baler. Two layers of film are applied to each bale end the bale being rotated through 90° between applications.

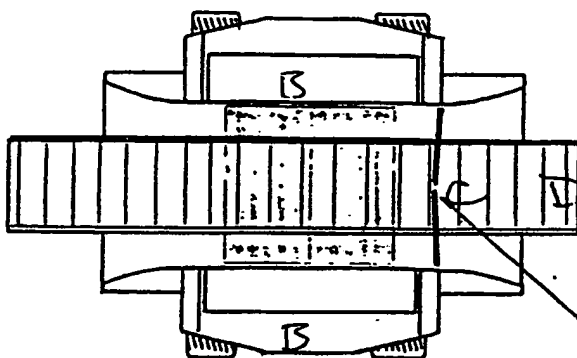


BALE EJECTED ON
TO CONVEYOR



DEFLATED WHEN
RETRACTED

BALE POSITIONED
BETWEEN LIDS



GATE OPEN TO DISCHARGE
BALE

Improvements to Agricultural Machinery/Bale Sealing Unit

Over the the last few years techniques have been developed whereby grass is cut on farms, wilted for a short while then baled in large round bales (4' diameter by 4' wide) and after being contained in the bale by twine or netting it is then bagged and sealed in a plastic bag, or more recently wrapped in plastic cling film so that the whole bale is sealed in this wrapping and all the air is excluded and that none can enter to cause heating up of the bale, which when sealed just gently ferments.

The two operations of baling when it is contained by twine or wrapped in netting and then wrapping again with impervious cling film or manually placing the bale in a plastic bag and sealing this by tying the opening mouth to exclude the entry of air is long winded and costly.

What we propose to do is to wrap the bale of silage (Halage, Wilted grass) in the bale chamber with an impervious layer, then when ejected put the bale on a special small trailed device towed behind the baler where the bale is then sealed at the sides by a special film of plastic adhesive material which envelops the end of the bale. These sheets or patches are stuck on each end of the bale by being pressured against the bale by BIN LIDS, which not only press the flat side of the bale but have a funnel shaped extension which pressure the spare patch material over the top of the other plastic sheet that has been put on in the bale chamber, and the spare material from the side sheets stick to the peripheral wrapping sheet and forms a seal by overlapping with it. The funnel mouth may have an inflatable circular seal which bears down on the spare side sheets to make a positive seal with the other peripheral plastic wrapped sheet.

What we propose therefore is a trailer device towed behind the baler that has a conveyor mounted within the wheel base and so transports the bale (A) when ejected from the baler to the side wrapping/sticking unit (B) where the BIN LIDS press the sticky sheets against the side of the bale and the funnel mouths press the spare loose material over the top of the initial peripheral wrapping to effect a seal. The funnels can have a special inflatable ring within them to make sure that all the surplus material is stuck and pressed down firmly on the peripheral initial wrapping to effect a perfect seal, so that no air can enter the inside of the bale when it is wrapped.

Once the bale is wrapped in the side sealing unit (B) it can be rotated by running the conveyor for a prescribed distance, and the side sheets are drawn down again from the upper rolls and the BIN LIDS then press a second layer of material against the first one but at 90° orientated to it so that the whole bale is then sealed with two layers of plastic to enable it to be more resistant to rough usage and handling without the sealing layer being punctured.

Once the bale is sealed with whatever number of prescribed layers of plastic is found necessary, the gate (C) is opened at the conveyor ramp and the bale ejected and rolls on to the ground by ramp (D) where it comes to rest.

By this means the bale is wrapped and sealed comprehensively in one handling operation and is therefore much cheaper and more efficient as it obviates the current methods where the bale is handled twice to effect its sealing.

For this trailed side sealing unit towed behind the bale we pray a Patent be granted to us.

CLAIMS

1. A small trailer towed behind a big round baler has a centrally mounted conveyor within the structure to move the bale when ejected to within the pagoda or overhead structure, where it is wrapped with plastic. By this means the bale does not touch the floor and have to be picked up again by another mechanism. By not being dropped onto the floor or ground, where spikes of chopped off plant (Dock) stems or sharp stones would puncture through the plastic, wrap, or if only netted or twined, pick up soil and other containments.
2. This simple conveyor has a lifting tipping end which controls and rolls the bale when it is being wrapped with cling film and when wrapped drops it, getting down on to ground level. By this means the wrapping is greatly simplified and reduced in cost.